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# Synthesis and secretion of proteinases by Bacillus intermedius in the late stages of sporulation

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## Abstract

In the late stages of sporulation, cells of Bacillus intermedius 3-19 secreted into the medium two proteinases, glutamyl endopeptidase and subtilisin, whose maximum activities were recorded in the 40th and 44th hours of growth, respectively. By estimating β-galactosidase activity as a marker of cytoplasmic membrane integrity, it was revealed that the accumulation of these proteinases in the medium was a result of their secretion and not of lysis of the cell envelope. Concentrations of peptone and inorganic phosphate ensuring the maximum production of the enzymes were established. Ammonium ions were shown to inhibit the production of proteinases by the mechanism of repression by nitrogen metabolites.

## Keywords

Bacillus intermedius, Glutamyl endopeptidase, Sporulation, Thiol-dependent proteinase